

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U.S. Appln. No. 09/672,776**

**REMARKS**

Claims 6-9 are all the claims pending in the application. Applicants have amended claim 6 and claim 8 for purposes of clarity. Accordingly, the amendments are not narrowing amendments made for reasons of patentability. Entry of the above amendments is respectfully requested.

Initially, the Examiner has neither acknowledged Applicant's claim to priority under 35 U.S.C. § 119, nor indicated that the certified copies of the priority documents have been received. Applicant respectfully requests that the Examiner acknowledge Applicant's claim to priority and indicate that the certified copies are of record since priority was claimed when the application was filed, and the certified copies of the priority documents were filed in the parent application.

In addition, the Examiner has not returned a copy of the initialed and signed PTO-1449 Form, filed with Applicant's IDS on September 29, 2000. Therefore, Applicant respectfully requests that a copy of initialed and sign PTO-1449 Form be returned with the next Action.

**I. Rejection of claims 6 and 8 under 35 U.S.C. § 112, second paragraph**

On page 2 of the Office Action, the Examiner rejects claims 6 and 8 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention.

Applicants have amended claim 6 by replacing "alumina-type" with --alumina-- and amended claim 8 by inserting --the group consisting of-- after "from" to properly

recite a Markush group. In view of the amendments, Applicant respectfully requests  
~~that the rejections be withdrawn.~~

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**II. Rejection of claims 6-9 under 35 U.S.C. § 103(a)**

On pages 2-3 of the Office Action, the Examiner rejects claims 6-9 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Pyzik et al. (U.S. Patent 5,021,372).

The present invention is directed to a method for polishing a metal film on a semiconductor substrate. The method comprises the steps of providing a semiconductor substrate including a metal film and an insulating film; providing an alumina-based polishing composition; and polishing the metal film.

Pyzik et al. relates to a process for preparing a silicon nitride ceramic body by applying heat and pressure to a powder mixture containing silicon nitride, a densification aid, a conversion aid, and a whisker growth enhancing compound. *See* claim 1 of Pyzik et al. The resulting silicon nitride ceramic body finds use as a cutting tool and in pumps and engines. *See* col. 1, lines 25-28.

Contrary to the Examiner's assertion, the ceramic composition disclosed by Pyzik et al. is not a polishing composition, but is a starting material for preparing the silicon nitride ceramic body. The only reference to polishing is found at col. 14, lines 8-35, where the silicon nitride ceramic body is progressively polished with smaller-sized diamond pastes entirely different from the polishing composition as required by the present invention

In addition, the silicon nitride ceramic body prepared by Pyzik et al., which is subjected to polishing, is not a semiconductor substrate comprising a metal film.

Particularly, the alumina, which is a component of the ceramic body, mentioned by the Examiner, is a ceramic material (an oxide) and is not a metal. ~~See page 7, lines 12-16 of~~ the present specification for examples of metal films used in the present invention.


Accordingly, Applicant respectfully submits that Pyzik et al. is not relevant to the present claims, and therefore respectfully requests that the rejection be withdrawn.

**III. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

  
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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

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IN THE CLAIMS:

**The claims are amended as follows:**

6. (Amended) A method for polishing a metal film on a semiconductor substrate, comprising the steps of:

providing a semiconductor substrate comprising a metal film and an insulating film therein;

providing a polishing composition comprising [alumina-type] alumina fine particles containing or not containing aluminum hydrate, a polishing accelerator and water, said [alumina-type] alumina fine particles having an  $\alpha$  conversion ratio of from 65 to 90% and a specific surface area of from 30 to 80 m<sup>2</sup>/g, and

mechanochemically polishing a metal film on said semiconductor substrate with said polishing composition.

8. (Amended) The method according to claim 6, wherein said insulating layer is made of a material selected from the group consisting of oxidized silicon and nitrided silicon.

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